My Body Doesn't Work And No One Know Why: Can You Fix Me?

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Practical Talks for Family Docs

The following presentation is evidence-based and free of bias. The intent to stimulate conversation about how, as primary care providers we can be prepared to manage patients whose symptoms challenge us from a diagnostic standpoint.

Learning Objectives:

- Define the taxonomy and semantics used to describe Medically Unexplained Physical Symptoms (MUPS)
- Describe the mechanism of bodily injury caused by COVID-19 and purported mechanisms of long-term injury to COVID-19 Infection and comparing this to other MUPS
- Summarize the principles of management for patients with MUPS

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Faculty Presenter Disclosure

Faculty/speaker's name: Mark Bonta, MD, FRCPC

Relationship with financial sponsors: None

- Grants or research support: None
- Speakers Bureau/Honoraria: None
- Consulting Fees: None
- Other: None

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Disclosure of Financial Support

The CFPC clinical webinar series has not received financial or in-kind support.

Potential for conflicts of interest: None

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Scenario 1

You are asked to see a 55-year-old smoker with a PMHx HTN, DM2 (on oral meds) who presents to hospital with exertional chest pain

Acute management?

Chronic Management?

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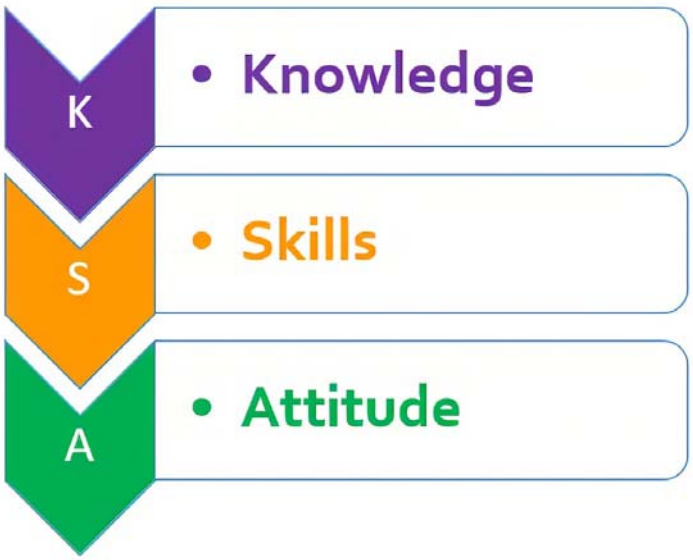
Competence



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Scenario 2

A 42F is referred to your office with symptoms of fatigue, brain fog, exertional shortness of breath and abnormal gastrointestinal habits. She has seen a cardiologist, respirologist, gastroenterologist and neurologist who have all told her she is normal. She had a history of COVID (based on an outbreak at the restaurant she works) in April 2022 and hasn't felt right since.

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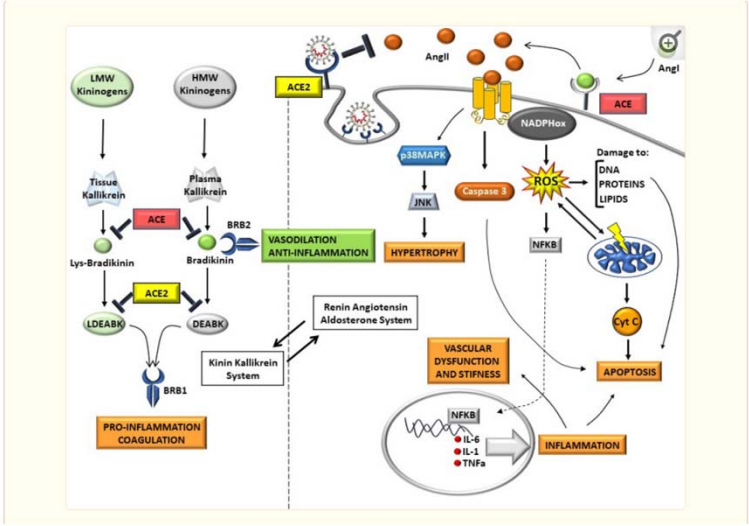

Scialo et al. *Lung. 2020.* ACE2: The Major Cell Entry Receptor For SARS-COV-2

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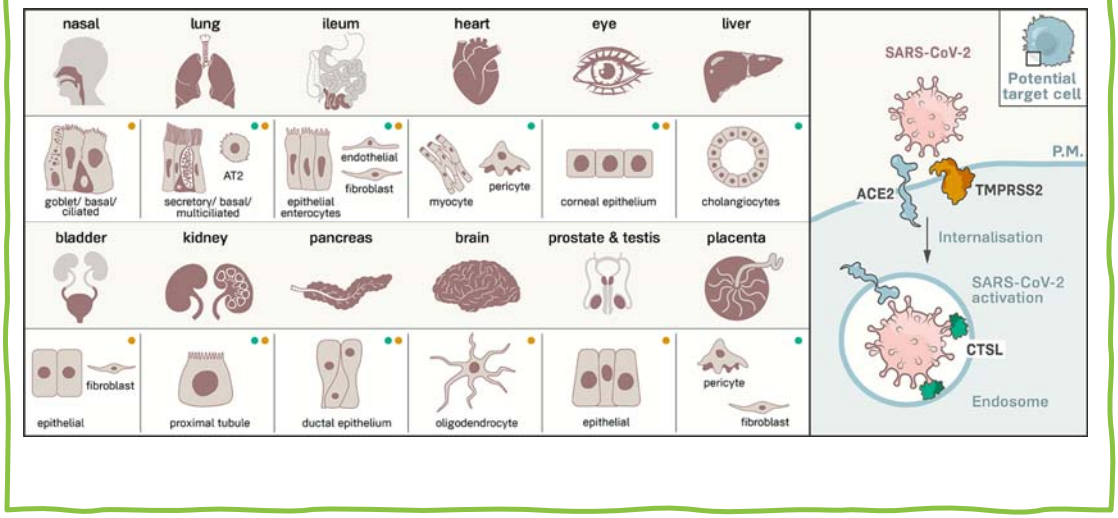

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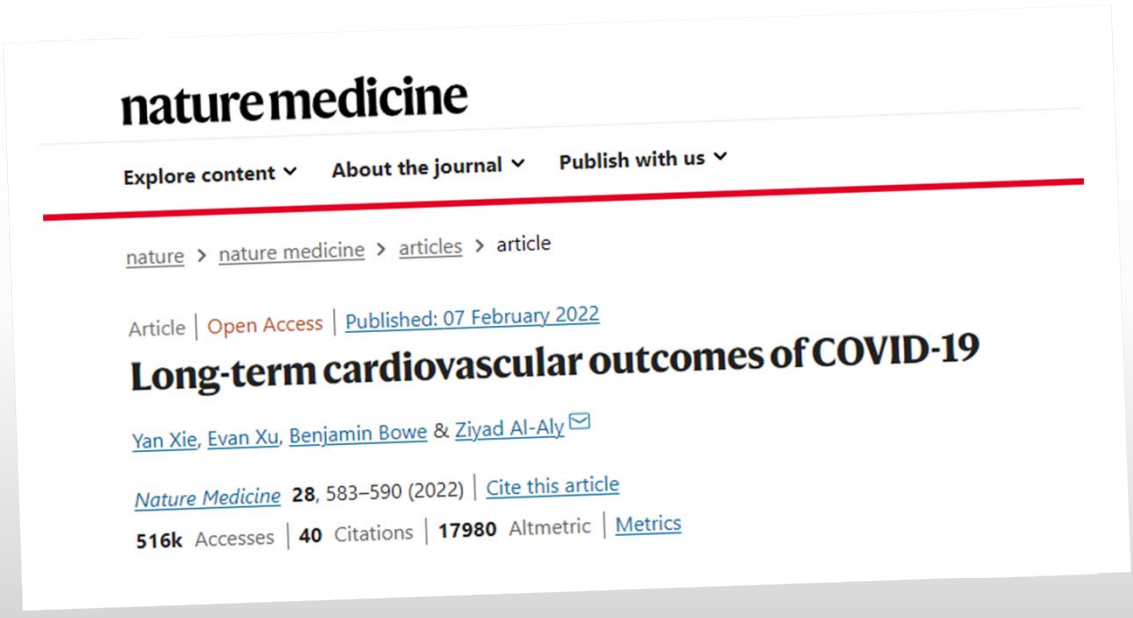

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Article | Open Access | Published: 07 February 2022

Long-term cardiovascular outcomes of COVID-19

Yan Xie, Evan Xu, Benjamin Bowe & Ziyad Al-Aly

Nature Medicine **28**, 583–590 (2022) | Cite this article

516k Accesses | **40** Citations | **17980** Altmetric | Metrics

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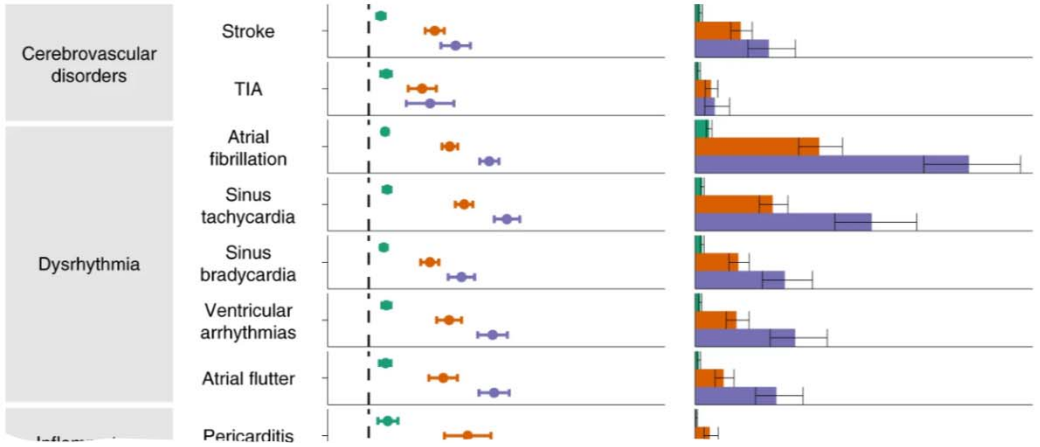
Fig. 5: Risks and 12-month burdens of incident post-acute COVID-19 cardiovascular outcomes compared with the contemporary control cohort by care setting of the acute infection.

From: Long-term cardiovascular outcomes of COVID-19



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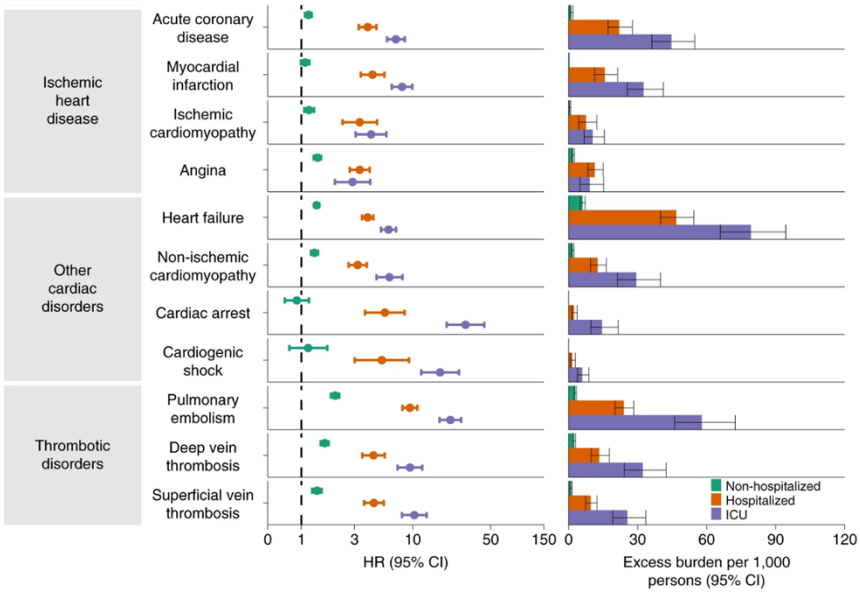

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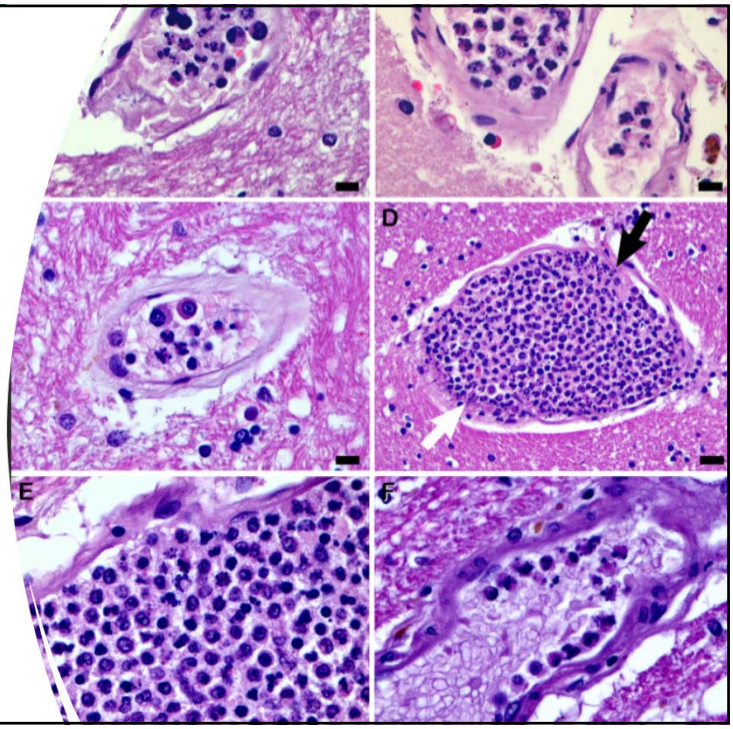
- Acute endothelitis (midbrain, subarachnoid micorvessels, medial temporal WM, lateral temporal WM, PMNs/nuclear dust/mononuclear cells in very dilated vessels in internal capsule, hypothalamus)

- Rhodes et al. 2022. *Reactive and acute inflammatory microvasculopathy in 36 COVID-19 autopsy brains. BMC Diagnostic Pathology pre-print*



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Histological patterns of kidney injury in patients infected with SARS-CoV-2

Kidney360

LIÈGE université

March 30 to June 4 2020

COVID-19

Post-mortem Kidney Biopsies
(Immediate ≤3 hours)
n = 16
Control
5 patients who died from sepsis not related to COVID-19

3 Pathologists

68.2±12.8 years
Mean age

68.7% Males

53.3% Proteinuria

60% Acute Kidney Injury

Immunostaining nCoV2019 N-Protein 9/16

Fluorescent *in situ* hybridization nCOV2019-S 6/16

Virus detection RNA RT-PCR (E and N1/N2 genes) 1/16

Electron microscopy did not show typical viral inclusions

Acute tubular necrosis (ATN) of variable severity was found in all cases, with no tubular or interstitial inflammation

Congestion in glomerular capillaries 56.3% COVID positive

Congestion in peritubular capillaries 87.5% COVID positive

No difference in ATN severity between the patients with COVID-19 *vs* controls

Conclusions. Immediate *post-mortem* kidney samples from patients with COVID-19 highlight a congestive pattern of acute kidney injury, with no significant glomerular or interstitial inflammation. Immunostaining and *in situ* hybridization suggest that SARS-CoV-2 is present in various segments of the

Antoine Bouquegneau, Pauline Erpicum, Stéphanie Grosch, et al. ***COVID-19-associated nephropathy includes tubular necrosis and capillary congestion, with evidence of SARS-CoV-2 in the nephron.*** *Kidney360*. DOI: 10.34067/KID.0006992020

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Long Covid

- Canadian Definition
  - **Post-COVID-19 Condition:** *When people show symptoms of COVID-19* ***for weeks or months after their initial recovery.*** *The most common symptoms in adults* ***include fatigue, memory problems, sleep disturbances, shortness of breath, anxiety and depression, general pain and discomfort, difficulty thinking or concentrating, PTSD****. In children, the most common symptoms include* ***fatigue, headaches, weight loss, muscle pain, sleep disturbances, stuffy or runny nose, difficulty thinking or concentrating.***

Clinical case definition shared by the Government of Canada, Sept 2021

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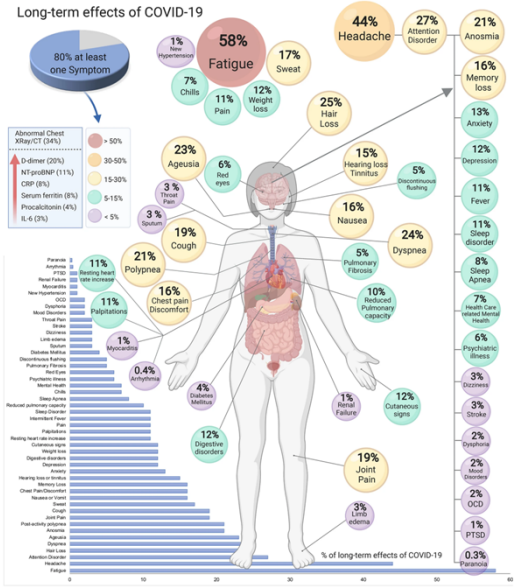

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Clin Infect Dis. 2021 Sep 15;73(6):1046-1054. doi: 10.1093/cid/ciab267.

Post–Ebola Syndrome Presents With Multiple Overlapping Symptom Clusters: Evidence From an Ongoing Cohort Study in Eastern Sierra Leone

Nell G Bond [1], Donald S Grant [2], Sarah T Himmelfarb [1], Emily J Engel [1], Foday Al-Hasan [2], Michael Gbakie [2], Fatima Kamara [2], Lansana Kanneh [2], Ibrahim Mustapha [2], Adaora Okoli [1], William Fischer [3], David Wohl [3], Robert F Garry [1], Robert Samuels [4], Jeffrey G Shaffer [1], John S Schieffelin [1]

Affiliations + expand

PMID: 33822010 PMCID: PMC8442780 DOI: 10.1093/cid/ciab267

Free PMC article

Abstract

Background: Following the 2013-2016 West African Ebola outbreak, distinct, persistent health complaints were recognized in Ebola virus disease (EVD) survivors. Here we provide an in-depth

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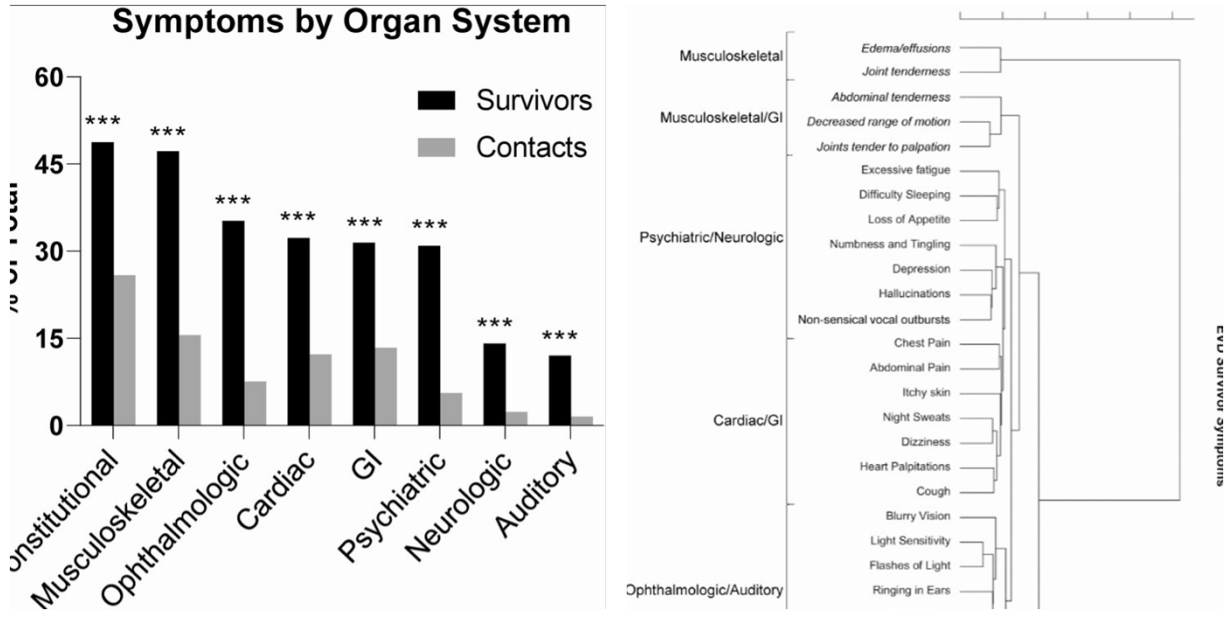

Clinical Infectious Diseases, Sept 2021. Bond et al.

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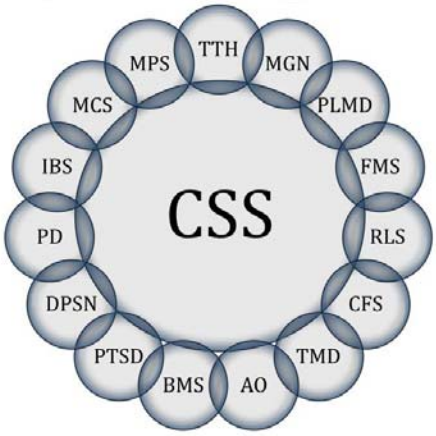
Central Sensitization Syndromes (CSS)

Adapted from Wallace and Clauw [2]



Tension-type HA
Migraine
Limb Movement Disorder
Fibromyalgia
Restless Leg Syndrome
Chronic Fatigue Syndrome
TMD
Atypical Odontalgia
Burning Mouth Syndrome
Post Traumatic Stress Disorder
Depression
Primary Dysmenorrhea
Irritable Bowel Syndrome
Multiple Chemical Sensitivities
Myofascial Pain Syndrome

Adapted from Daniel J Wallace & Daniel Clauw 19

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Central Sensitization

- **Central Sensitivity Syndromes (CSS)** belong to a family of syndromes that share the common mechanism of hyper-excitability within the central nervous system:
  - Stronger, amplified messages
  - Wrong messages sent
    - Touch feels like pain, autonomic dysregulation, sensitivities
  - Medically Unexplained Physical Symptoms (MUPS)

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Central Sensitivity Syndrome

CSS comprise overlapping and similar group of syndromes without structural pathology that are bound by the common mechanism of central sensitization (CS):

Hyperexcitement of the central neurons

Hypersensitivity to various noxious and non-noxious stimuli

Pain, fatigue, poor sleep, psychosocial difficulty, sensitivity to stimuli

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INTRODUCTION: PREVALENCE

- 5.5% of Canadian adults (1.3 million) report:
  - Chronic Fatigue Syndrome (1.6%)
  - Fibromyalgia (2.0%)
  - Multiple Chemical Sensitivities (2.7%)
- Half of people with Medically Unexplained Symptoms (MUPS) report other chronic physical conditions
  - Compared with 8% in those without MUPS
- Mental comorbidities more prevalent in those with MUPS
- Women twice as likely as men to report these conditions
- Prevalence varies with household income and divorce/widow

From: Statistics Canada: 2014 Canadian Community Health Survey

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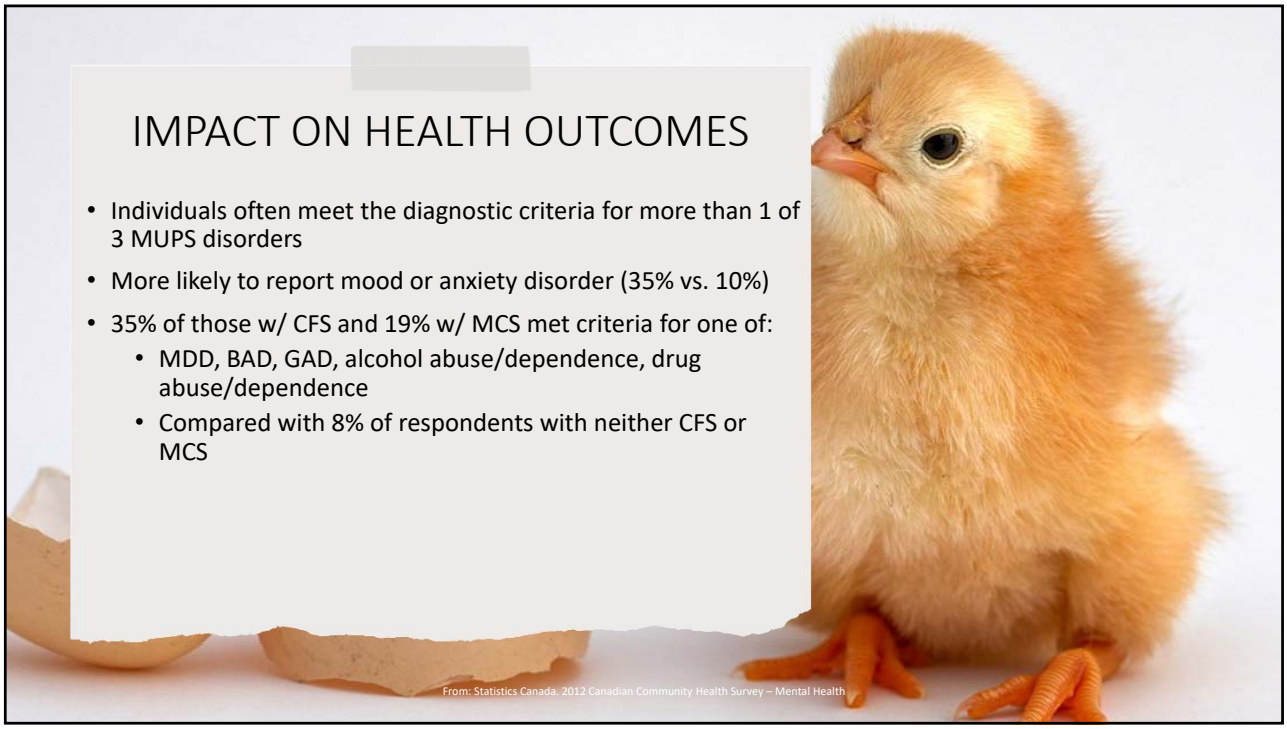

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Health Care use and unmet needs

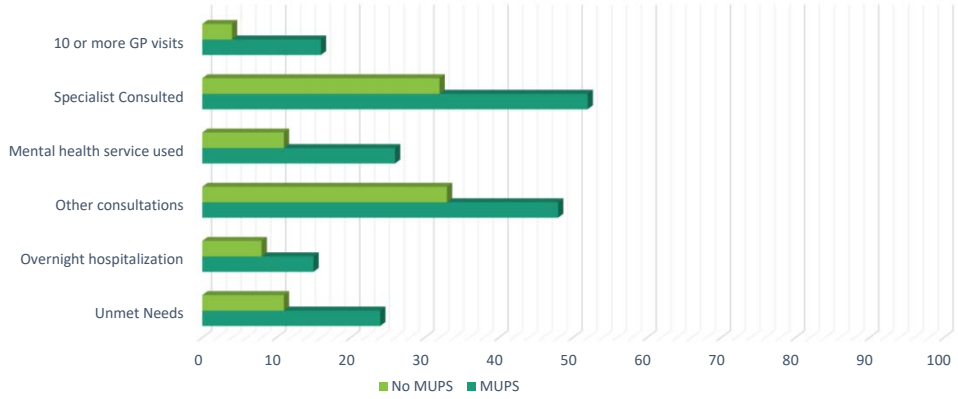

Figure 1. Health care use and unmet needs in past year, by MUPS status, age 25 and older, Canada, 2014

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Psychiatric perspective

Previously, patients could only be diagnosed with a somatoform disorder if the physical symptoms were medically unexplained

DSM-5 now recognizes that regardless of whether explained or unexplained, some patients will have significant distress related to physical symptoms

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Psychobehavioural Features Key to Diagnosis

Somatic Symptom Disorder	Illness Anxiety Disorder	Psychological Factor Affecting A Medical Condition
• 1 or more somatic symptoms that are distressing +/- lead to significant disruption in daily life coupled with 1 or more excessive thoughts, feelings, or behaviours related to the somatic symptom	• preoccupation with and fear of having or acquiring a serious disorder, with presence of mild or no symptoms	• one or more clinically significant psychologic or behavior factors that adversely affect an existing medical disorder (e.g. diabetes mellitus, heart disease) or symptom (e.g. pain) • Wide range of examples from mild to severe: asthma and anxiety, denial of illness

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Table 3. The Somatic Symptom Scale-8

During the past seven days, how much have you been bothered by the following symptoms?

Symptom	*Not at all*	*A little bit*	*Somewhat*	*Quite a bit*	*Very much*
Back pain	0	1	2	3	4
Chest pain or shortness of breath	0	1	2	3	4
Dizziness	0	1	2	3	4
Feeling tired or having low energy	0	1	2	3	4
Headaches	0	1	2	3	4
Pain in your arms, legs, or joints	0	1	2	3	4
Stomach or bowel problems	0	1	2	3	4
Trouble sleeping	0	1	2	3	4
Score:	_____				

Scoring: None to minimal (0 to 3); low (4 to 7); medium (8 to 11); high (12 to 15); very high (16 to 32).

Adapted with permission from Gierk B, Kohlmann S, Kroenke K, et al. The Somatic Symptom Scale-8 (SSS-8): a brief

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Key Recommendations For Practice

- Use of screening instruments (SSS-8, GAD-65, PHQ-9)
- CBT and Mindfulness-based therapies
- Amitriptyline, SSRI, St. John's wort are effective for SSD
- MAO-I, buproprion, anticonvulsants, antipsychotics are ineffective
- Stress coping rather than cure
- Empathize: Spend most of time listening and acknowledging
- Mind-body connection: Hardware vs. Software
- Limit over-testing based on your judgment, history and physical

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New Clinical Fibromyalgia Diagnostic Criteria – Part 1.

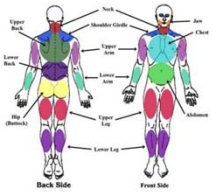
To answer the following questions, patients should take into consideration

- how you felt the **past week**,
- while taking your current therapies and treatments, and
- exclude your pain or symptoms from other known illnesses such as arthritis, Lupus, Sjogren's, etc.

Determining Your Widespread Pain Index (WPI)
The WPI Index score from Part 1 is between 0 and 19.

Check each area you have felt pain in over the past week.

- O Shoulder girdle, left
- O Shoulder girdle, right
- O Upper arm, left
- O Upper arm, right
- O Lower arm, left
- O Lower arm, right
- O Hip (buttock) left
- O Hip (buttock) right
- O Upper leg left
- O Upper leg right
- O Lower leg left
- O Lower leg right
- O Jaw left
- O Jaw right
- O Chest
- O Abdomen
- O Neck
- O Upper back
- O Lower back
- O None of these areas



Count up the number of areas checked and enter your Widespread Pain Index or WPI score score here ____.

Symptom Severity Score (SS score) - Part 2a.

Indicate your level of symptom severity over the past week using the following scale.

Fatigue

- O 0 = No problem
- O 1 = Slight or mild problems; generally mild or intermittent
- O 2 = Moderate; considerable problems; often present and/or at a moderate level
- O 3 = Severe: pervasive, continuous, life disturbing problems

Waking unrefreshed

- O 0 = No problem
- O 1 = Slight or mild problems; generally mild or intermittent
- O 2 = Moderate; considerable problems; often present and/or at a moderate level
- O 3 = Severe: pervasive, continuous, life disturbing problems

Cognitive symptoms

- O 0 = No problem
- O 1 = Slight or mild problems; generally mild or intermittent
- O 2 = Moderate; considerable problems; often present and/or at a moderate level
- O 3 = Severe: pervasive, continuous, life disturbing problems

Tally your score for Part 2a (not the number of checkmarks) and enter it here ____.

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BLOG STORE INFORMATION SPECIALTIES TEAM REVIEWS APPOINTMENTS CONTACT

VAGUS NERVE DYSFUNCTION DISORDERS

The vagus nerve travels from the brain stem to stimulate every major organ in the body, which is why it is connected to so many different conditions. If you have any questions or would like to learn more, contact us to schedule a free consultation with our highly qualified practitioners.

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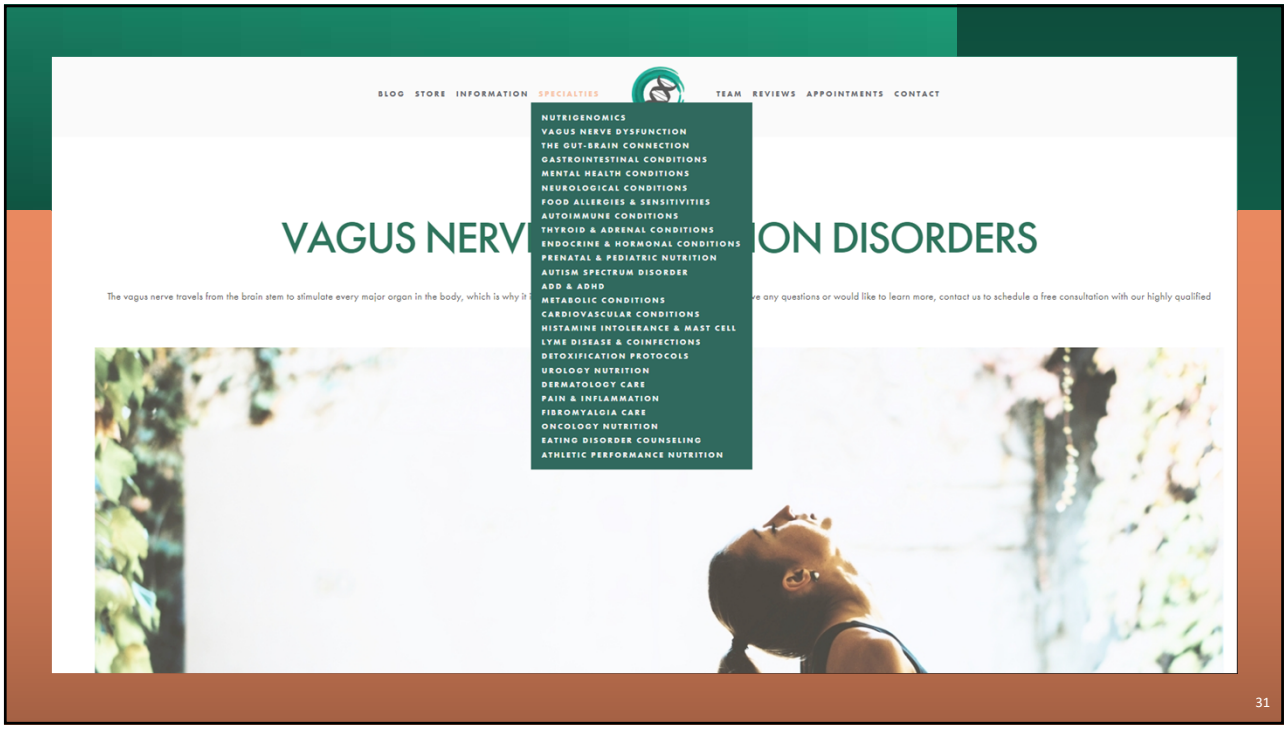
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THE GUT-BRAIN CONNECTION
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CARDIOVASCULAR CONDITIONS
HISTAMINE INTOLERANCE & MAST CELL
LYME DISEASE & COINFECTIONS
DETOXIFICATION PROTOCOLS
UROLOGY NUTRITION
DERMATOLOGY CARE
PAIN & INFLAMMATION
FIBROMYALGIA CARE
ONCOLOGY NUTRITION
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VAGUS NERV ON DISORDERS
The vagus nerve travels from the brain stem to stimulate every major organ in the body, which is why it
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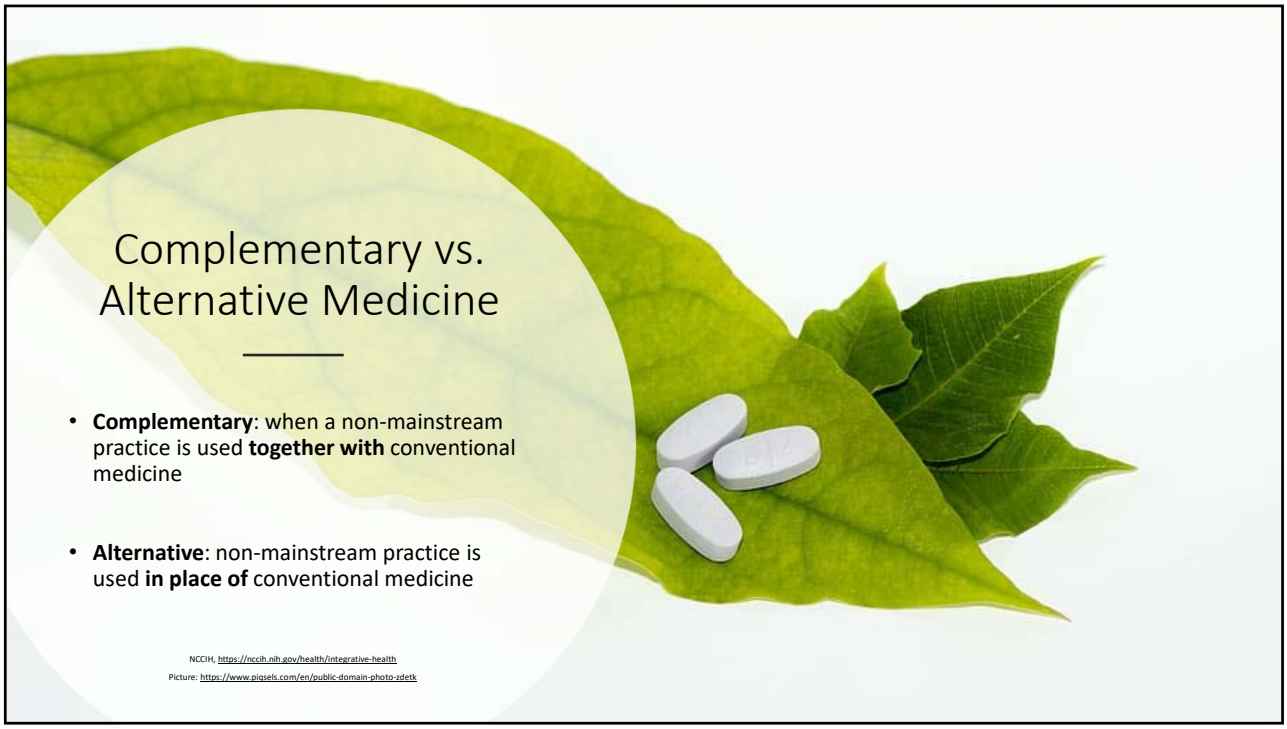

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CAM In Practice

- 33% of cancer patients report using CAM
- 34% of patients with cardiovascular disease report using CAM
- 30-60% of patients disclose their use of CAM to their physicians
- CAM not disclosed commonly because the physician did not ask
- Herbal supplements and dietary modifications are most common

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Reasons for CAM non-Disclosure

- Patient was afraid of physicians response
- Physician didn't ask or wasn't interested
- Patient didn't think it was important or necessary
- Didn't think physician had relevant knowledge to know
- Thought CAM was safe/wouldn't interfere with therapy
- Previous negative response with disclosure

From: Disclosure of complementary use to medical providers: A systematic review and meta-analysis. 2019. *Sci Rep*. Foley *et al.*

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"Real Causes" of Autonomic Dysfunction

- GBS, Lambert-Eaton, SLE, DM2, B12 Deficiency, Parkinsons Disease, Botulism, Chagas, HIV, Leprosy, CNS Tumors, Paraneoplastic Syndromes, Amiodarone, Chemotherapy, Spinal Cord Injuries, Autoimmune autonomic ganglionopathy,
- Postural Exacerbators: Furosemide, thiazide, hydralazine, sildenafil, alfuzosin, terazosin, propanolol, clonidine, ACE-I, ARB, chlorpromazine, olanzapine, risperidone, quetiapine, verapamil, diltiazem, SSRI, trazodone, amitripyline

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Real Management of Autonomic Dysfunction

- Discontinue exacerbating medications
- Compression stocking and abdominal binders
- 500 mL of water to start the day
- Salt tablets – target of 6 to 10 g/day provided no contraindications
- Slow changing of postures, avoidance of Valsalva
- Sitting/Recumbent exercise
- Midodrine, droxidopa (NE Precursor), Fludrocortisone
- Caffeine

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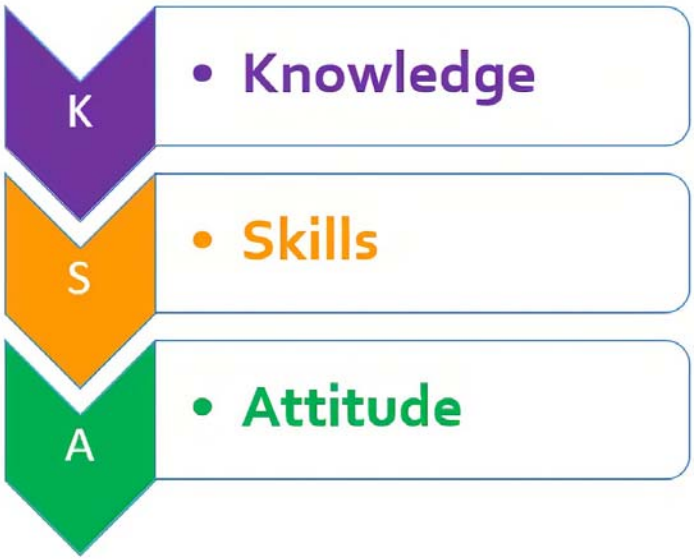

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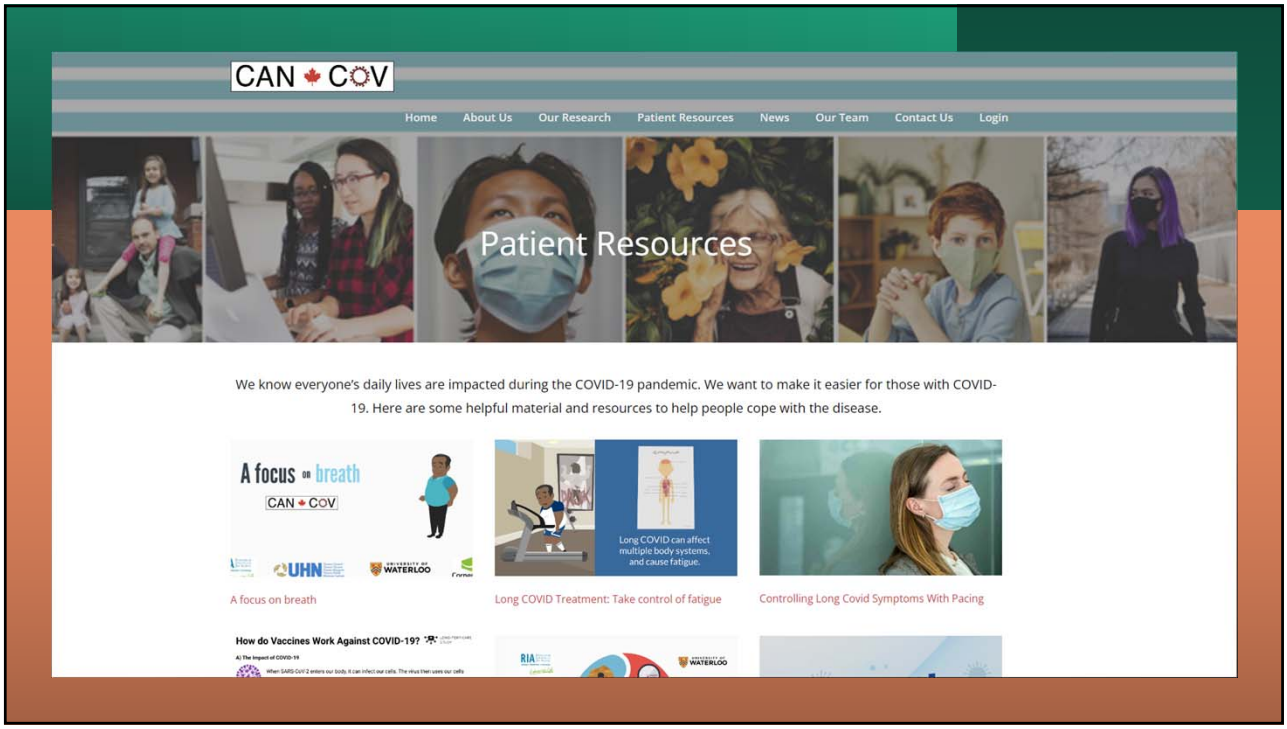
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We know everyone's daily lives are impacted during the COVID-19 pandemic. We want to make it easier for those with COVID-19. Here are some helpful material and resources to help people cope with the disease.
A focus on breath
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Long COVID can affect multiple body systems, and cause fatigue.
A focus on breath
Long COVID Treatment: Take control of fatigue
Controlling Long Covid Symptoms With Pacing
How do Vaccines Work Against COVID-19?

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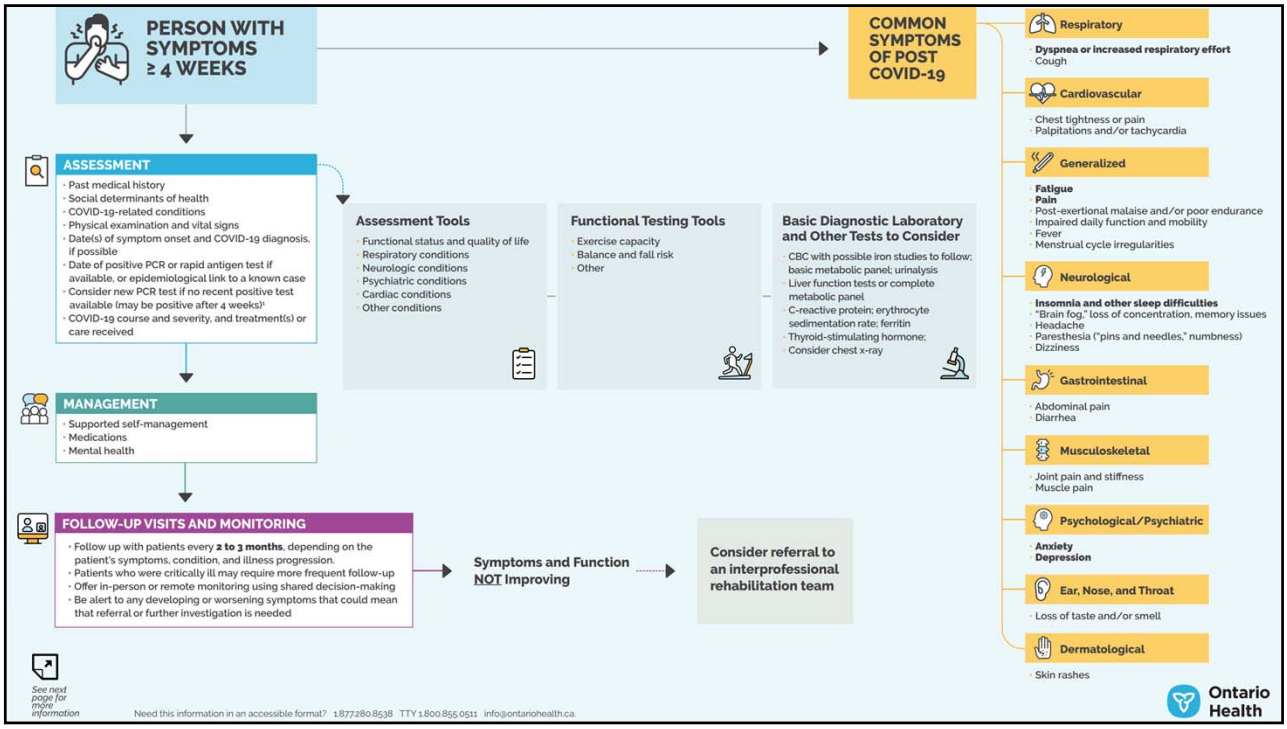
PERSON WITH SYMPTOMS ≥ 4 WEEKS
COMMON SYMPTOMS OF POST COVID-19
ASSESSMENT
Past medical history
Social determinants of health
COVID-19-related conditions
Physical examination and vital signs
Date(s) of symptom onset and COVID-19 diagnosis, if possible
Date of positive PCR or rapid antigen test if available, or epidemiological link to a known case
Consider new PCR test if no recent positive test available (may be positive after 4 weeks)1
COVID-19 course and severity, and treatment(s) or care received
Assessment Tools
Functional status and quality of life
Respiratory conditions
Neurologic conditions
Psychiatric conditions
Cardiac conditions
Other conditions
Functional Testing Tools
Exercise capacity
Balance and fall risk
Other
Basic Diagnostic Laboratory and Other Tests to Consider
CBC with possible iron studies to follow; basic metabolic panel; urinalysis
Liver function tests or complete metabolic panel
C-reactive protein; erythrocyte sedimentation rate; ferritin
Thyroid-stimulating hormone;
Consider chest x-ray
MANAGEMENT
Supported self-management
Medications
Mental health
FOLLOW-UP VISITS AND MONITORING
Follow up with patients every 2 to 3 months, depending on the patient's symptoms, condition, and illness progression.
Patients who were critically ill may require more frequent follow-up
Offer in-person or remote monitoring using shared decision-making
Be alert to any developing or worsening symptoms that could mean that referral or further investigation is needed
Symptoms and Function NOT Improving
Consider referral to an interprofessional rehabilitation team
Respiratory
Dyspnea or increased respiratory effort
Cough
Cardiovascular
Chest tightness or pain
Palpitations and/or tachycardia
Generalized
Fatigue
Pain
Post-exertional malaise and/or poor endurance
Impaired daily function and mobility
Fever
Menstrual cycle irregularities
Neurological
Insomnia and other sleep difficulties
"Brain fog," loss of concentration, memory issues
Headache
Paresthesia ("pins and needles," numbness)
Dizziness
Gastrointestinal
Abdominal pain
Diarrhea
Musculoskeletal
Joint pain and stiffness
Muscle pain
Psychological/Psychiatric
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Depression
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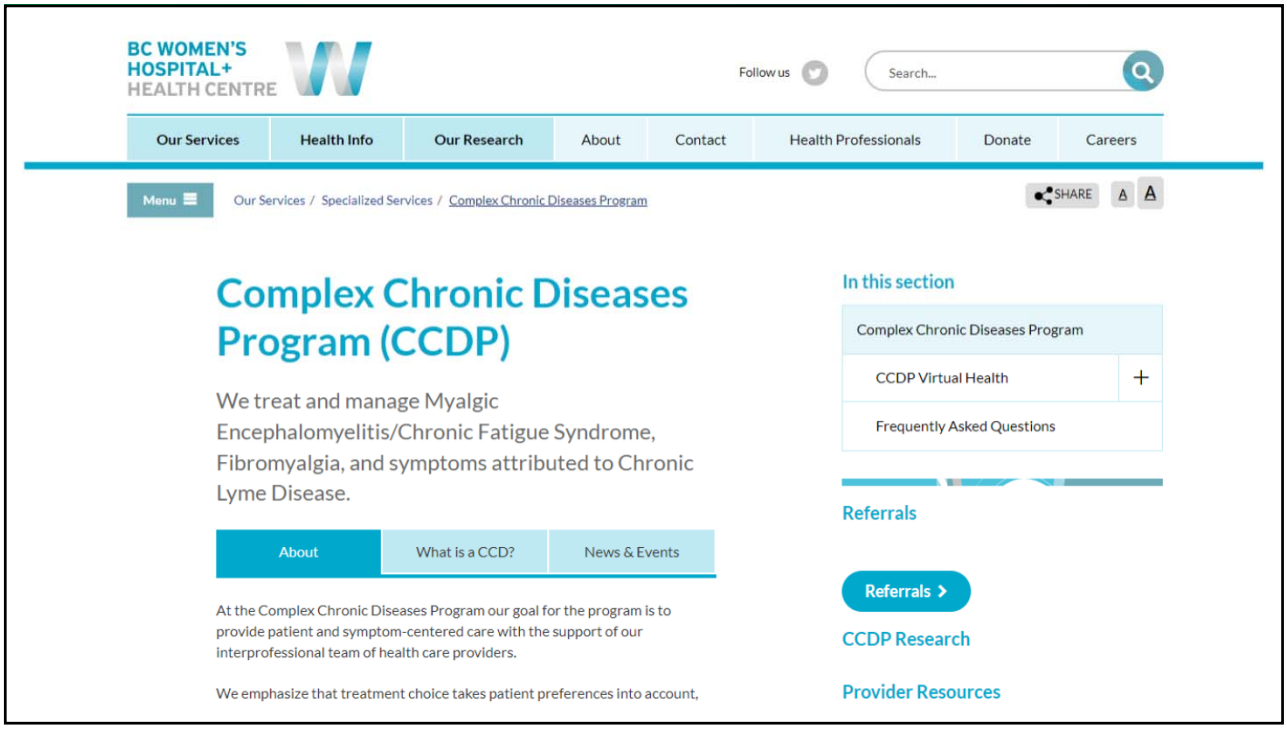
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We emphasize that treatment choice takes patient preferences into account,
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Functional neurologic disorder associated with SARS-CoV-2 vaccination
Annie Zhu and Matthew J. Burke
CMAJ August 15, 2022 194 (31) E1086-E1088; DOI: https://doi.org/10.1503/cmaj.220039
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KEY POINTS
• An increasing number of patients are presenting with functional neurologic disorders (FND) after SARS-CoV-2 vaccination.
• No evidence exists to suggest a direct causal relationship between specific constituents in the SARS-CoV-2 vaccine and FND; patients may develop FND after vaccination owing to a variety of complex and incompletely understood factors.
• Patients who develop new-onset FND after vaccination may be hesitant to receive subsequent
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Functional Neurological Disorders

- 10-30% of patients seen by neurologists have symptoms for which there is no current pathophysiological explanation
- Up to 2/3rds have psychiatric comorbidity
- Can co-exist with objective neurologic illness

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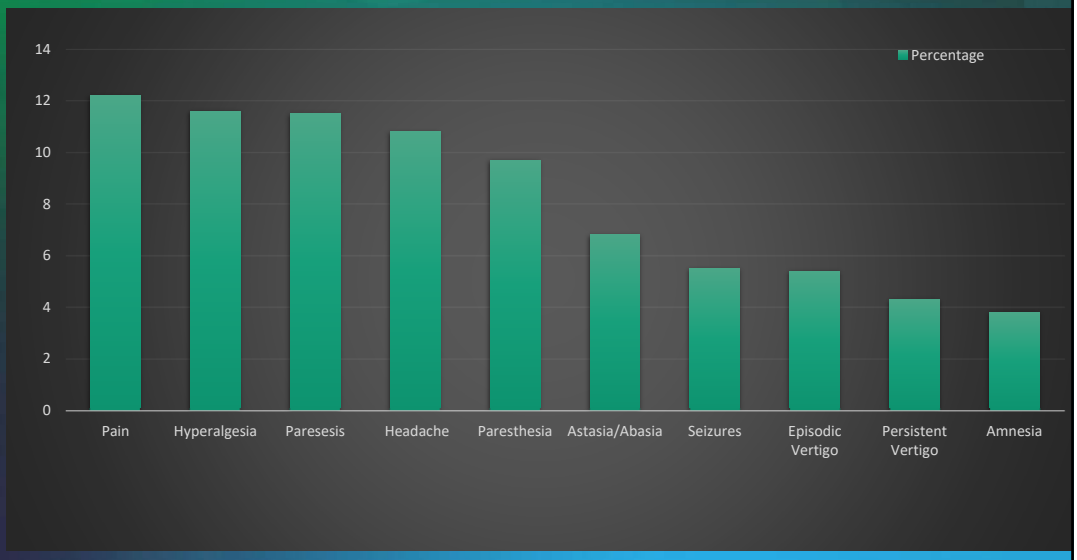
Distribution of Symptoms



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Psychogenic Non-Epileptiform Seizures (PNES)

Prevalence of 2-33 per 100,000 (US)

20% of those with intractable seizures have PNES

18% of patient with epilepsy have concomitant PNES

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PATHOPHYSIOLOGY

PSYCHOLOGICAL

SOCIAL

BIOLOGICAL

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Conversion Disorders: RISK FACTORS

- Female Gender (75%)
- History of early childhood trauma (50-75%)
- History of recent trauma (PTSD, Dissociation)
- Alexithymia (difficulty expressing emotions)
- Societal attitudes (more tolerant of physical illness)

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APPROACH TO ASSESSMENT

History, Physical, Labs

- Focus on known risks

Trauma-specific Family History

Clues:

- La belle indifference
- Inconsistent findings
- Variation with distraction/repeated testing

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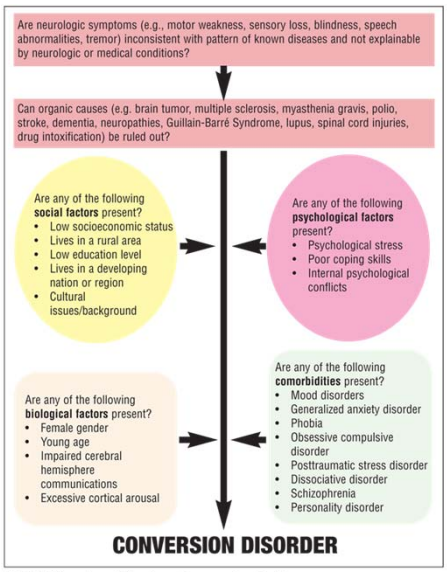

FIGURE 3. Step-wise guide for diagnosing conversion disorder

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Neuroimaging

For conversion syndrome:

The mechanism for conversion paralysis is not through conscious inhibition, but appears to involve brain regions and circuits involved in self-representation, emotional regulation, and motor processing

For somatization:

Bodily sensations amplified (insula)

Reactivation of brain cytokines

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Warning Signs

- Distribution of motor or sensory deficits that does not conform to any nerve, root, truncal, or central distribution
- Give-way weakness
- Inconsistent examination findings False sensory findings
- Hoover's sign
- Pseudoclonus
- Convergence spasm
- Distractible symptoms
- Inconsistent paralysis
- Astasia-abasia
- Cognitive complaints out of proportion

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Psychogenic Seizures

Episodes last > 5 minutes

Asynchronous (start/stop quality)

Back arching, pelvic thrusting, stuttering, forced eyelid closure, flailing arms, speaking in whisper or baby voice, side-to-side movements

Emotional or pain trigger

Paradoxical worsening with AE therapy

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Management: Summary

COMMUNICATE THE DIAGNOSIS

PSYCHOTHERAPY

PSYCHIATRY & PSYCHOLOGY

MEDICATIONS

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Back To Our Case

- A 42F is referred to your office with symptoms of fatigue, brain fog, exertional shortness of breath and abnormal gastrointestinal habits. She has seen a cardiologist, respirologist, gastroenterologist and neurologist who have all told her she is normal. She had a history of COVID (based on an outbreak at the restaurant she works) in April 2022 and hasn't felt right since.

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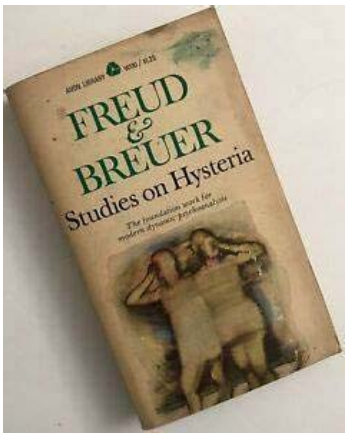
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Studies on Hysteria

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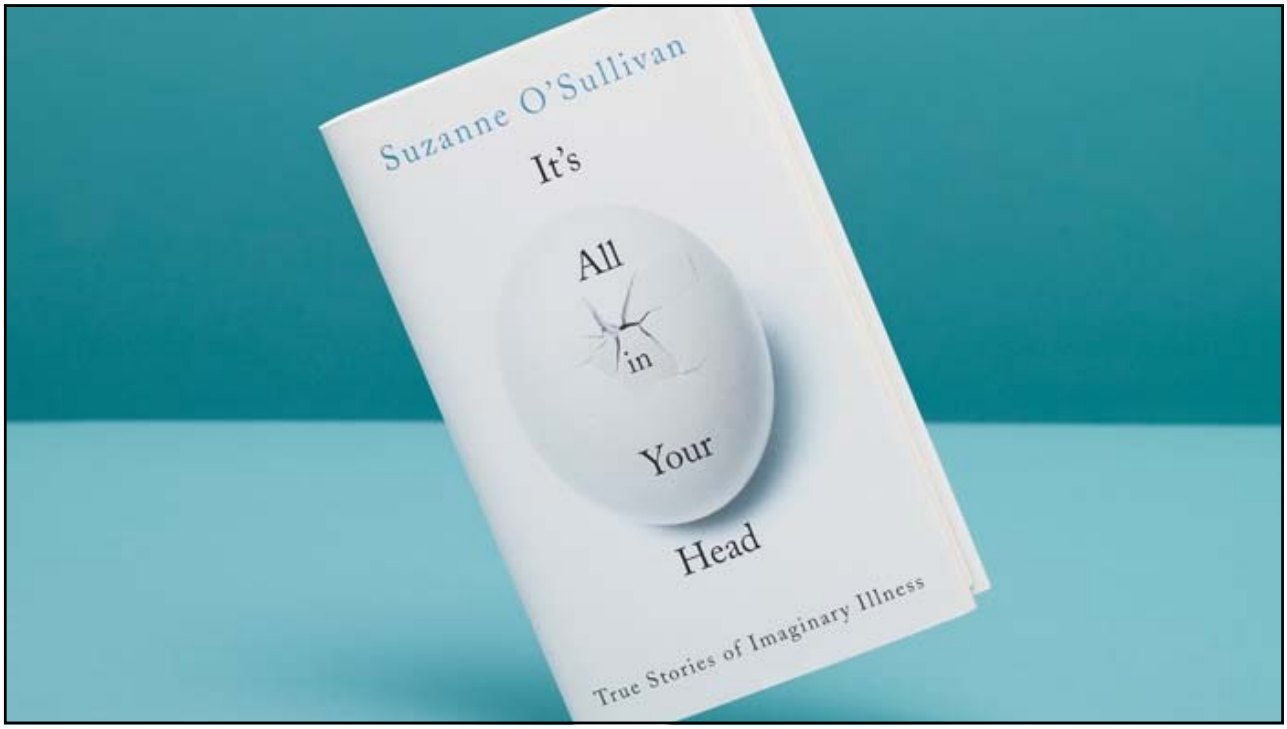
Suzanne O'Sullivan
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All
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